

IN THE CLAIMS:

Claim 1 (Currently Amended) A device for manipulating a molecule *in vivo* relative to a target tissue comprising:

an elongated member comprising an elongated core electrode comprising a conductive material, a substantially nonconductive insulator sleeve positioned in surrounding relation to a portion of the core electrode, and an outer electrode positioned in surrounding relation to a portion of the sleeve, a bottom portion of the sleeve protruding therefrom;

at least two discrete electrodes affixed in axially spaced relation along the elongated member, each electrode being in circuit communication with a respective portion of a source of electrical energy, the discrete electrodes being configured to establish a first electromagnetic field *in vivo* between selected electrodes sufficient to cause an electromigration of a molecule relative to a target tissue and a second electromagnetic field sufficient to cause transient permeability of a cell membrane within the target tissue; and

an insulating material interposed axially between the electrodes for achieving relative electromagnetic isolation of the electrodes.

Claim 2 (Original) The device recited in Claim 1, wherein the second field is higher than the first field.

Claim 3 (Original) The device recited in Claim 1, wherein the elongated member is geometrically adapted for insertion into the target tissue.

Claim 4 (Cancelled)

Claim 5 (Currently Amended) The device recited in Claim 1, wherein the sleeve has a bottom portion adapted to protrude beneath a bottom of the outer electrode.

Claim 6 (Currently Amended) The device recited in Claim 1, wherein the outer electrode comprises a first outer electrode and the sleeve comprises a first sleeve, and further comprising:

a second insulator sleeve positioned in surrounding relation to a portion of the first outer electrode, a bottom portion of the first outer electrode protruding therefrom; and

a second outer electrode positioned in surrounding relation to a portion of the second sleeve.

Claim 7 (Original) The device recited in Claim 6, wherein the first sleeve has a bottom portion positioned to protrude beneath a bottom of the first outer electrode and the second sleeve has a bottom portion adapted to protrude beneath a bottom of the second outer electrode.

Claim 8 (Original) The device recited in Claim 1, wherein the member comprises a plurality of members configurable to surround a periphery of at least a portion of the target tissue.

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Claim 9 (Original) The device recited in Claim 1, wherein the member comprises a pair of members configured in spaced-apart relation and adapted to provide at least one pair of opposite-polarity voltages approximately simultaneously on at least one electrode on each member.

Claim 10 (Original) The device recited in Claim 1, further comprising means for selectively activating a selected plurality of electrodes in a predetermined pattern.

Claim 11 (Original) The device recited in Claim 1, wherein the electrodes are substantially simultaneously activatable.

Claim 12 (Withdrawn) The device recited in Claim 1, wherein the member has a lumen therethrough extending from an opening adjacent a top of the member to a portal positioned along the member beneath the top opening for passing a substance therethrough to the target tissue.

Claim 13 (Withdrawn) The device recited in Claim 12, wherein the portal is positioned adjacent a bottom tip of the member.

Claim 14 (Withdrawn) The device recited in Claim 12, wherein the portal is positioned along the member adjacent an electrode.

Claim 15 (Currently Amended) A device for manipulating a molecule in vivo relative to a target tissue comprising:

an elongated member comprising an elongated core electrode comprising a conductive material, a substantially nonconductive insulator sleeve positioned in surrounding relation to a portion of the core electrode, and an outer electrode positioned in surrounding relation to a portion of the sleeve, a bottom portion of the sleeve protruding therefrom;

at least two discrete electrodes affixed in axially spaced relation along the elongated member, each electrode being in circuit communication with a respective portion of a source of electrical energy, the discrete electrodes being configured to establish an electromagnetic field *in vivo* between selected electrodes sufficient to cause at least one of an electromigration of a molecule relative to a target tissue and transient permeability of a cell membrane within the target tissue; and

an insulating material interposed axially between the electrodes for achieving relative electromagnetic isolation of the electrodes.

Claim 16 (Withdrawn) A method for achieving an improved distribution and delivery of a desired molecule from an initial body location into a target tissue comprising the steps of:

inserting at least one elongated member into a body generally adjacent a target tissue, each elongated member having at least two discrete electrodes disposed in axially separated relation along the elongated member, each electrode being in circuit communication with a respective portion of a source of electrical energy, each pair of adjacent electrodes separated by an insulating material interposed therebetween;

establishing a first electrical potential between a pair of electrodes sufficient to cause electromigration of the desired molecule from the initial location to a location in the target tissue; and

establishing a second electrical potential between a pair of electrodes higher than the first electrical potential sufficient to cause electroporation in the target tissue for enhancing an entry of the desired molecule into a cell thereof.

Claim 17 (Withdrawn) The method recited in Claim 16, further comprising the step of delivering a molecule to the body tissue through a lumen in the member in communication with a portal positioned adjacent the body tissue.

Claim 18 (Withdrawn) The method recited in Claim 16, further comprising the step of establishing a third electrical potential between a pair of electrodes sufficient to cause a second electromigration of the desired molecule to a desired location in the target tissue.

Claim 19 (Withdrawn) The method recited in Claim 16, wherein the second electrical potential is established prior to the establishment of the first electrical potential.

Claim 20 (Withdrawn) The method recited in Claim 16, further comprising the step of establishing a third electrical potential between a pair of electrodes sufficient to cause a second electromigration of the desired molecule to a desired location in the target tissue.

Claim 21 (Withdrawn) The method recited in Claim 16, wherein the first electrical potential is established prior to the establishment of the second electrical potential.

Claim 22 (Withdrawn) The method recited in Claim 21, further comprising the step of establishing a third electrical potential between a pair of electrodes sufficient to cause a second electromigration of the desired molecule to a desired location in the target tissue.

Claim 23 (Withdrawn) The method recited in Claim 16, wherein the inserting step comprises inserting a plurality of elongated members into the body on a plurality of sides of the target tissue.

Claim 24 (Withdrawn) A method for achieving an improved distribution and delivery of a desired molecule from an initial body location into a target tissue comprising the steps of:

inserting at least one elongated member into a body generally adjacent a target tissue, each elongated member having at least two discrete electrodes disposed in axially separated

relation along the elongated member, each electrode being in circuit communication with a respective portion of a source of electrical energy, each pair of adjacent electrodes separated by an insulating material interposed therebetween; and

establishing an electrical potential between a pair of electrodes sufficient to cause electromigration of the desired molecule from the initial location to a location in the target tissue.

Claim 25 (Withdrawn) The method recited in Claim 24, wherein the inserting step comprises inserting a plurality of elongated members into the body on a plurality of sides of the target tissue.

Claim 26 (Withdrawn) A method for achieving an improved distribution and delivery of a desired molecule from an initial body location into a target tissue comprising the steps of:

inserting at least one elongated member into a body generally adjacent a target tissue, each elongated member having at least two discrete electrodes disposed in axially separated relation along the elongated member, each electrode being in circuit communication with a respective portion of a source of electrical energy, each pair of adjacent electrodes separated by an insulating material interposed therebetween; and

establishing an electrical potential between a pair of electrodes sufficient to cause electroporation in the target tissue for enhancing an entry of the desired molecule into a cell thereof.

Claim 27 (Withdrawn) The method recited in Claim 26, wherein the inserting step comprises inserting a plurality of elongated members into the body on a plurality of sides of the target tissue.

If the Office is not fully persuaded that this amendment document submitted meets the requirements under 37 CFR 1.121, a telephone call to the undersigned at (727) 507-8558 is requested.

Very respectfully,

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CERTIFICATE OF FACSIMILE TRANSMISSION
(37 C.F.R. 1.8(a))

I HEREBY CERTIFY that this Response to Notice of Non-Compliant Amendment (37 CFR 1.121) is being transmitted by facsimile to the United States Patent and Trademark Office, Art Unit 3763, Attn.: Michael J. Hayes, (703) 872-9302 on November 17, 2003.

Dated: November 17, 2003

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